

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A self-protecting barrier system for retarding fire comprising:

a fire-retardant barrier having a water-permeable and substantially unburned first fabric for covering a substantial area;

said first fabric having a surface and having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches, wherein substantially all of said pockets contain hydrated superabsorbent polymer in the amount of between about 0.01 and about 2 grams unhydrated weight of superabsorbent polymer per cubic inch of said volumetric capacity of said pockets;

said hydrated superabsorbent polymer having a temperature of about 100 °C;

said hydrated superabsorbent polymer substantially filling said volumetric capacity of said pockets;

a fire adjacent said surface of said first fabric; and

a first layer of steam at said surface of said first fabric and between said surface of said first fabric and said fire.

Claim 2 (currently amended): A self-protecting barrier system according to claim 1, wherein said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 3 (currently amended): A self-protecting barrier system according to claim 1, wherein said superabsorbent polymer is polyacrylamide.

Claim 4 (currently amended): A self-protecting barrier system according to claim 1, wherein each one of said pockets when the superabsorbent polymer is unhydrated is between about ½ inch and about 5 inches long and between about ½ inch and about 5 inches wide.

Claim 5 (currently amended): A self-protecting barrier system according to claim 1, where each of said pockets holds between about 0.005 grams and about 3 grams unhydrated weight of said superabsorbent polymer.

Claim 6 (currently amended): A self-protecting barrier system according to claim 1, wherein said hydrated superabsorbent polymer is ~~loose within said pockets when said superabsorbent polymer is unhydrated~~ a substantially continuous matrix of hydrated superabsorbent polymer.

Claim 7 (currently amended): A self-protecting barrier system according to claim 1, further comprising

~~two sheets joined together to form said pockets between said sheets, wherein at least one of said sheets is water-permeable~~ a water-permeable and substantially unburned second fabric opposite said first fabric;

fuel adjacent said second fabric; and

steam between said second fabric and said fuel.

Claim 8 (currently amended): A self-protecting barrier system according to claim 7, wherein said sheets first fabric and said second fabric are each porous, hydrophilic and normally flammable and are joined together to form said pockets with at least one joining element.

Claim 9 (currently amended): A self-protecting barrier system according to claim 7, wherein said sheets first fabric and said second fabric are each porous, hydrophilic and normally flammable and are joined together to form said pockets with stitching.

Claim 10 (currently amended): A self-protecting fire-retardant barrier system according to claim 1, further comprising:

~~water-permeable fabric for covering a substantial area;~~

~~said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches,~~

~~wherein substantially all of said pockets contain between about 0.01 and about 2 grams of superabsorbent polymer per cubic inch of volumetric capacity of said pockets; and~~
a second fire-retardant barrier and means for fastening said fire-retardant barrier
to a said second fire-retardant barrier.

Claim 11 (currently amended): A self-protecting fire-retardant barrier system according to claim 1, further comprising:

~~water permeable fabric for covering a substantial area;~~
~~said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches,~~
~~wherein substantially all of said pockets contain between about 0.01 and about 2 grams of superabsorbent polymer per cubic inch of volumetric capacity of said pockets; and~~
a second fire-retardant barrier and fasteners for fastening said fire-retardant barrier to a said second fire-retardant barrier.

Claim 12 (currently amended): A self-protecting fire-retardant barrier system according to claim 1, further comprising:

~~water permeable fabric for covering a substantial area; said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches, wherein substantially all of said pockets contain between about 0.01 and about 2 grams of superabsorbent polymer per cubic inch of volumetric capacity of said pockets; and~~
a building adjacent said fire-retardant barrier opposite said layer of steam and means for fastening said fire-retardant barrier to a said building.

Claim 13 (currently amended): A self-protecting fire-retardant barrier system according to claim 1, further comprising:

~~water permeable fabric for covering a substantial area; said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches, wherein substantially all of said pockets contain between about 0.01 and about 2 grams of superabsorbent polymer per cubic inch of volumetric capacity of said pockets; and~~

a building adjacent said fire-retardant barrier opposite said first layer of steam and fasteners for fastening said fire-retardant barrier to a said building.

Claim 14 (currently amended): A self-protecting barrier for retarding fire, comprising:
a plurality of pockets connected together to cover a substantial area;
wherein each one of said plurality of pockets has a ~~pair of fabric layers~~ a first fabric layer and a second fabric layer, wherein ~~at least one of said first fabric layers~~ layer is water-permeable, and a cavity disposed between said first and second fabric layers, said cavity having a capacity of between about 0.03 cubic inches and about 17 cubic inches;

wherein substantially all of said plurality of pockets are substantially slack and hold substantially only loose superabsorbent polymer in the amount of between about 0.01 and about 2 grams of said superabsorbent polymer per cubic inch of volumetric capacity.

Claim 15 (currently amended): A method of retarding fire from burning an object, comprising the steps of:

providing a plurality of self-protecting fire-retardant barriers, each having water-permeable fabric, said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches and about 17 cubic inches, wherein substantially all of said pockets contain between about 0.01 and about 2 grams of superabsorbent polymer per cubic inch of said volumetric capacity of said pockets;

covering substantially all of said object with said plurality of self-protecting fire-retardant barriers; and

hydrating said superabsorbent polymer in each one of said plurality of self-protecting fire-retardant barriers with a sufficient amount of water to expand said superabsorbent polymer to substantially fill said volumetric capacity with a substantially continuous matrix of hydrated superabsorbent polymer and push said pockets out to tautness.

Claim 16 (currently amended): A method according to claim 15, further comprising the step of fastening said plurality of self-protecting fire-retardant barriers together for covering substantially all of said building object.

Claim 17 (currently amended): A method according to claim 15, further comprising the step of evaporating or boiling a portion of the said water that was absorbed by the superabsorbent polymer of said substantially continuous matrix of hydrated superabsorbent polymer at a temperature of about 100 °C to form a steam layer at a surface of the said barriers for protecting said barriers from a fire.

Claim 18 (original): A method according to claim 17, further comprising the step of quenching fire with said steam layer.

Claim 19 (currently amended): A self-protecting fire-retardant barrier system according to claim 10, wherein said first fabric is porous, hydrophillic and flammable and said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 20 (currently amended): A self-protecting fire-retardant barrier system according to claim 10, wherein said first fabric is porous, hydrophillic and flammable and said superabsorbent polymer is polyacrylamide.

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (canceled)

Claim 24 (canceled)

Claim 25 (currently amended): A self-protecting fire-retardant barrier system according to claim 11, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 26 (currently amended): A self-protecting fire-retardant barrier system according to claim 11, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is polyacrylamide.

Claim 27 (canceled)

Claim 28 (canceled)

Claim (canceled)

Claim 30 (canceled)

Claim 31 (currently amended): A self-protecting fire-retardant barrier system according to claim 12, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 32 (currently amended): A self-protecting fire-retardant barrier system according to claim 12, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is polyacrylamide.

Claim 33 (canceled)

Claim 34 (canceled)

Claim 35 (canceled)

Claim 36 (canceled)

Claim 37 (currently amended): A self-protecting fire-retardant barrier system according to claim 13, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 38 (currently amended): A self-protecting fire-retardant barrier system according to claim 13, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is polyacrylamide.

Claim 39 (canceled)

Claim 40 (canceled)

Claim 41 (canceled)

Claim 42 (canceled)

Claim 43 (currently amended): A self-protecting fire-retardant barrier according to claim 14, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is a polyacrylate or a polyacrylate derivative.

Claim 44 (currently amended): A self-protecting fire-retardant barrier according to claim 14, wherein said first fabric is porous, hydrophilic and flammable and said superabsorbent polymer is polyacrylamide.

Claim 45 (currently amended): A self-protecting fire-retardant barrier according to claim 14, wherein each one of said pockets is between about ½ inch and about 5 inches long and between about ½ inch and about 5 inches wide.

Claim 46 (currently amended): A self-protecting fire-retardant barrier according to claim 14, where each of said pockets holds between about 0.005 grams and about 3 grams of said superabsorbent polymer.

Claim 47 (canceled)

Claim 48 (currently amended): A self-protecting fire-retardant barrier according to claim 14, ~~further comprising two sheets joined together to form said pockets between said sheets, wherein at least one of said sheets is~~ wherein said second fabric layer is water-permeable.

Claim 49 (currently amended): A method of isolating fuel from the flames of a fire, comprising the steps of:

providing at least one self-protecting fire-retardant barrier between said fuel and said flames, said barrier having a first surface facing and exposed to said flames ~~and~~ having formed of a water-permeable fabric, said fabric having at least 9 pockets per square foot, each pocket having a volumetric capacity of between about 0.03 cubic inches

and about 17 cubic inches, wherein substantially all of said pockets contain a substantially continuous matrix of water and hydrated superabsorbent polymer in the amount of between about 0.01 and about 2 grams unhydrated weight of superabsorbent polymer per cubic inch of said volumetric capacity of said pockets, said superabsorbent polymer being hydrated with said water; and

allowing volatizing a portion of said water at a temperature of about 100 °C. to form a steam layer to form at said exposed first surface of said barrier; and

detering ignition of said fabric and preventing said flames from reaching said fuel by substantially extinguishing said flames with said first steam layer.

Claim 50 (currently amended): A method according to claim 49, further including the steps of allowing dissipating said steam layer ~~to dissipate~~, and then removing said barrier.

Claim 51 (new): A method according to claim 49, said fire retardant barrier further having a second surface facing said fuel, said second surface being water permeable, further including the step of volatizing a portion of said water at a temperature of about 100 °C to form steam at said second surface of said barrier, and between said barrier and said fuel.